

**U.S. Department of Interior
Bureau of Land Management
Roseburg District, Oregon**

Environmental Assessment for the Swiftwater Field Office

Rock Creek Access Road Stabilization Project

EA No. OR - 104 - 02 - 04

The Swiftwater Field Office proposes to realign, repair and stabilize a quarter mile portion of the Rock Creek Access Road at M.P. 12.1 due to earth slumping to repair settlement (slumping) of the roadway. This project is located in the Rock Creek fifth-field watershed in Section 25, T24S R2W; W.M.

Acronyms Used:

ACS	-	Aquatic Conservation Strategy
BA	-	Biological Assessment
BO	-	Biological Opinion
BLM	-	Bureau of Land Management
EA	-	Environmental Assessment
DBH	-	Diameter Breast at Height
FONSI	-	Finding Of No Significant Impact
NEPA	-	National Environmental Protection Act
NFP	-	Northwest Forest Plan
NMFS	-	National Marine Fisheries Service
RMP	-	Resources Management Plan
ROD	-	Record Of Decision (used only to refer to the NFP ROD)
S&G	-	Standards & Guidelines
T&E	-	Threatened or Endangered

Project Lead: Randy Lopez

Preparer: Jim Luse
Roseburg District, BLM
777 NW Garden Valley Blvd.
Roseburg, OR 97470
(541-440-4931 ext. 3254)

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INTRODUCTION

This Environmental Assessment (EA) has been prepared for the proposed **Rock Creek Access Road Stabilization Project**. An EA is a site specific analysis of potential environmental impacts that could result with the implementation of a proposed action. The EA assists the Agency in project planning and insuring compliance with the National Environmental Protection Act (NEPA) and in making a determination as to whether any "significant" impacts could result from analyzed actions. "Significance" as defined by NEPA is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a "Finding of No Significant Impact" (FONSI). The FONSI is a document that briefly presents the reasons why implementation of the proposed action will not result in "significant" environmental impacts (effects) beyond those already addressed in the Roseburg District's *Proposed Resource Management Plan / Environmental Impact Statement* (PRMP/EIS, October 1994).

A Decision Record would be completed after the FONSI is signed to document the decision. A notice of this decision will be placed in *The News Review*, a daily newspaper of general circulation in Roseburg, Oregon.

I. PURPOSE OF AND NEED FOR ACTION

This section provides a general overview of the proposed action. Included are: the need for the action, purpose of the action, a general description and objectives of the proposal, and conformance with existing land use plans.

A. Need for Action

The BLM has a need to implement the *Roseburg District Record of Decision and Resources Management Plan* (RMP). The RMP "responds to dual needs: the need for forest habitat and the need for forest products" (RMP, pg. 15). "The need for forest habitat is . . . for a healthy forest ecosystem with habitat that will support populations of native species and includes protection for riparian areas and waters." The Northeast Fork of Rock Creek Access Road (26-3-1.0 Rd) has multiple slumps for approximately 1/4 mile above the junction with Rd. No. 24-2-25.2. Past maintenance actions has not succeeded in stabilizing this road segment. Potential failures could limit or complicate access to the upper reaches of the Northeast Fork of Rock Creek and thereby hamper implementation of management as described in the RMP. A large-scale road fill failure could also result in input of sedimentation into Rock Creek and impact to stream ecology.

This need would be accomplished by the following objectives:

1. Continue to provide safe road access to the upper Northeast Fork of Rock Creek for BLM management as well as Permittee, and public use.
2. Reestablish hydrologic connections, increase stability of naturally occurring slides by reducing the impact of the road upon the slides thereby minimizing potential of a major failure which could add large amount of sedimentation into Rock Creek.
3. Reduce recurrent maintenance costs.

B. Purpose of Action

The purpose of the action described in this EA is to provide safe road conditions and stabilize the Rock Creek Access Road to repair settling (slumping) of the roadway and to reduce potential sedimentation.

C. Conformance with Existing Land Use Plans

The proposed action and all alternatives were developed to be in conformance with the *Final - Roseburg District Proposed Resources Management Plan / Environmental Impact Statement* (PRMP/EIS) dated October 1994 and its associated *Roseburg District Record of Decision and Resources Management Plan* (RMP) dated June 2, 1995. The RMP was written to be consistent with the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl* (FSEIS); dated Feb. 1994 and its associated *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (ROD) and *Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Related Species Within the Range of the Northern Spotted Owl* (S&G's) dated April 13, 1994; generally referred to as the "Northwest Forest Plan". The ROD establishes management direction consisting of ".... extensive standards and guidelines including land allocations, that comprise a comprehensive ecosystem management strategy" (ROD pg. 1).

The ROD (pg. 6) divides the federal landbase into seven land use allocations or categories. This project is primarily within the Riparian Reserves land use allocations. The "Riparian Reserves are areas along all streams, wetlands, ponds, lakes, and unstable or potentially unstable areas where the conservation of aquatic and riparian-dependent terrestrial resources receives primary emphasis." (ROD, pg. 7).

II. ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE

This section describes the No Action and Proposed Action alternatives, and any alternatives considered but eliminated from detailed analysis. These alternatives represent a range of reasonable potential actions that would meet the Purpose and Need. This section also discusses specific design features that would be implemented under the action alternatives.

A. The No Action Alternative

The No Action Alternative is required by NEPA to provide a baseline for the comparison of the alternatives. This alternative represents the existing condition. If this alternative were selected there would be no realignment of the Rock Creek Access Road in order to repair road settlement problems. This alternative would continue the past practice of annual recurrent maintenance (patching of the road).

B. The Proposed Action Alternative

Implementation of the Proposed Action Alternative would result in the realignment of the Rock Creek Access Road away from the two existing land flows uphill from the head scarps, 30 feet at Slide A, and 40 feet at Slide B and replacement of associated drainage culverts. The prevailing road standards (two-lane, paved road) would be retained for the reconstructed portions of the road. The total length of the realignment would be 400 feet at Slide A, and 800 feet at Slide B. The road fills would be constructed out of rocky, permeable material and compacted. Cut slopes would be stabilized with rock revetments. The roads surface would be paved with asphalt. The existing road fills within the slide areas would be removed, and the sites stabilized.

Description of the Proposal:

1. Approximately 0.3 miles of road would need to be reconstructed.
2. The realignment would move the existing road centerline a maximum of approximately 30 to 40 feet from its current location.
3. The reconstruction would involve a 12" rock base course and a four inch bituminous surface course. Five drainage culverts would need to be replaced.
4. Excess reconstruction material and fill removal would be end hauled to a disposal site located at the existing Kelly Creek disposal site (T25S R3W Section 25).

C. Project Design Features and Management Practices as part of the Action Alternative

This section describes mitigating measures (measures designed to avoid, minimize or rectify impacts on resources [40 CFR 1508.20]) that would be incorporated with the implementation of the action alternatives. Project design features are site specific measures, restrictions, requirements or physical structures included in the design of a project to reduce adverse environmental impacts. Additionally, the RMP (Appendix D, pg. 129) lists "Best Management Practices" (BMP's) and the ROD lists "Standards and Guidelines" (S&G's). BMP's are measures designed to protect water quality and soil productivity. S&G's are "... the rules and limits governing actions, and the principles specifying the environmental conditions or levels to be achieved and maintained." (S&G, pg. A-6). The proposed action alternative includes the following measures that would be included as part of the action alternative:

1. **To meet the objectives of the "Aquatic Conservation Strategy (ACS)" (RMP, pg. 19):**
 - a. **Riparian Reserves (Component #1)** were established. Riparian Reserves consist of lands incorporating permanently flowing (perennial) and seasonally flowing (intermittent) streams, the extent of unstable and potentially unstable areas that may directly impact streams, and wetlands greater than an acre. For this project, Riparian Reserve boundaries would be approximately 360 ft. from Rock Creek (Roseburg District Memo, Jan. 18, 1995).

b. **Key Watersheds (ACS Component #2)** were established “as refugia ... for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species [RMP, pg. 20].” This project is not in a Key Watershed.

c. **Watershed Analysis (ACS Component #3)** for the Rock Creek Watershed was used in this analysis and is available for public review at the Roseburg District office.

d. **Watershed Restoration (ACS Component #4)** would result from the implementation of the proposed project by reducing potential road related sedimentation.

2. To minimize the loss of soil productivity (i.e. limiting erosion, reducing sedimentation, and protecting slope stability):

a. All disturbed surfaces would be seeded and/or planted with native species or a sterile hybrid mix depending on availability after the project’s completion to stabilize exposed soils and prevent erosion and sedimentation.

b. Embankment for culvert backfill would be obtained from on site excavation accumulated during culvert removal or from nearby developed borrow sources. Embankments would be constructed using controlled compaction. Embankment would be placed as close as practicable to its angle of repose, but in no case steeper than 1 ½ to 1.

c. Graded rip rap would be placed on the embankment at the inlet and outlet of each culvert to a level equal to full-bank flow elevation. The rip rap would be placed to a thickness to prevent embankment erosion and keyed below the waterway a minimum of three feet. The rip rap would be sized to prevent movement during high flow events. Rip rap would be placed in a way to minimize impacts to the flow path and maintain normal waterway capacity and configuration. Rip rap would be obtained from either commercial sources or developed rock quarries and consist of clean non-erodible angular rock. A rip rap headwall would be placed at the inlet of each culvert. The head wall would extend a minimum of two feet above the top and a minimum of three feet below the bottom of the culvert.

d. An erosion control plan would developed by the contractor describing erosion control measures (e.g., sediment fences or other measures sufficient to prevent offsite movement of soil, use of an impervious cover over stockpiled embankments if unusual adverse weather conditions occur, and sediment traps or catch basins to settle out solids prior to ditch water from entering waterways) that would be taken to prevent sediment from entering the stream. Such plans would be reviewed and approved by the Contracting Officer’s Representative. These BMP’s (RMP, pg. 136-7) are designed to minimize sedimentation and protect water quality.

3. To prevent and report accidental spills of petroleum products or other hazardous materials:

Hazardous materials (particularly petroleum products) would be stored in durable containers and located so that any accidental spill would be contained. All work site trash and materials would be removed. Accidental spills or discovery of the dumping of any hazardous materials would be

reported to the Contracting Officer and the procedures outlined in the “Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan” would be followed.

4. To contain and/or reduce the spread of noxious weeds:

Prior to initial move-in, construction equipment would be steam cleaned or pressure washed to remove soil and vegetative material from the equipment to avoid the spread of noxious weeds (RMP, pg. 74; BLM Manual 9015 - Integrated Weed Management).

5. To protect Special Status and SEIS Special Attention Plants and Animals:

a. If, during implementation of the proposed action, any Special Status (threatened or endangered, proposed threatened or endangered, candidate, State listed, Bureau sensitive or Bureau assessment) species are found, evaluation for the appropriate type of mitigation needed for each species would be done. Stipulations would be placed in the contract to halt operations if any of these Special Status plants or animals are found to allow time to determine adequate protective measures before operations could resume.

b. Due to unsurveyed northern spotted owl nesting, roosting and foraging habitat within 0.25 mile of the project area, seasonal restrictions prohibiting operations would be applied during the nesting season (March 1 to June 30).

6. To protect cultural resources:

Stipulations would be placed in the contract to halt operations and evaluate the appropriate type of mitigation needed to provide adequate protection; if any objects of cultural value (e.g. historical or prehistorical ruins, graves, fossils or artifacts) are found during the implementation of the proposed action.

D. Alternatives Considered but not Analyzed in Detail

An alternative to buttress the toe of the slide within the Rock Creek channel and install drains into the slide was considered but eliminated from further consideration. This alternative would have resulted in the disturbance of some access trails that have begun to heal up with advanced reproduction. Additionally the need for consultation and obtaining permits would have delayed the project. This alternative was also rejected because of its high cost (\$220,000), need to work within the riparian area, and high design uncertainties exceeded funds allocated for deferred maintenance.

III. AFFECTED ENVIRONMENT

This section describes the existing environment and forms a baseline for comparison of the effects created by the alternatives under consideration. This section does not attempt to describe in detail every resource within the proposed project area that could be impacted but only those resources which could be significantly impacted. Appendix F (Analysis File) contains data and supporting information that provides the basis for describing the affected environment.

This project lies within the Oregon Western Cascades Physiographic Province. The FSEIS describes the affected environment for this province on page 3&4-19. The Roseburg District Proposed Resource Management Plan/Environmental Impact Statement (PRMP/EIS, pp. 3-3 through 3-71) provides a detailed description of BLM administered lands on the Roseburg District. A further description can also be found in the Rock Creek Watershed Analysis.

A. General Setting

Site Description - The project area lies within the Western Cascade Province, where the Little Butte Volcanic Series predominate. The underlying bedrock is composed of massive beds of dacitic and andesitic ash-flow and lesser amounts of flow rock of andesitic and basaltic composition. The ash-flow bedrock deposits are susceptible to rapid weathering and decomposition.

Geomorphologically, the area is characterized by slow erosional processes of the underlying and exposed bedrock, and naturally occurring landflows in bedrock depression areas with deeper soil mantle (regolith). In these areas, the combination of unconsolidated, soft soils and fluctuating ground water create conditions for mass movement. The amount of movement can be correlated to the amount of rainfall and ground water replenishment in a given year. The mass movement is also perpetuated and even accelerated by river erosion of the toe of the slide. The residually weathered and the colluvial soils are predominately silts and sands, with occasional inclusions of boulder- and cobble-size rocks.

B. Affected Resources

Botanical - All proposed activities on BLM owned lands would occur within or near the road prism of the roadway. No Special Status Plants were observed in the project area. A data base search showed that Woodland milkvetch (*Astragalus umbraticus*, Bureau tracking) was found in a past survey of an area adjacent to this project. This species was looked for but was not found within the project area. There are some localized infestations of scotch broom, a noxious weed, in the project area.

Cultural Resources - No cultural resources were found in the project area during previous surveys for the NE Fork of Rock Creek (CRS No. 18503) and Rock Garden (CRS No. 19211) timber sales.

Fisheries - This project is within the Rock Creek fifth-field watershed. Rock Creek is an important fisheries producer of numerous salmonid species within the North Umpqua River system. According to the Rock Creek WA (pg. 8-1), Coastal Cutthroat trout (*Oncorhynchus clarki*), Oregon Coast

Steelhead trout (*Oncorhynchus mykiss*), Oregon Coast Chinook salmon (*Oncorhynchus tshawytscha*), and Pacific Lamprey (*Lampetra tridentata*) are present in the watershed. The Oregon Coast Coho has been designated as a threatened species under ESA. The Oregon Department of Fish and Wildlife (ODFW, 1994) has conducted stream habitat surveys for the Rock Creek fifth-field watershed. Aquatic stream habitat data is available for streams within the watershed (Rock Creek WA pp.8-14 through 8-17). These surveys generally show that streams within the watershed lack large wood, have elevated water temperatures, altered sediment inputs, increased peak flows, and decreased summer flows. All of the streams rated either Fair or Poor. Large woody debris is lacking, much of the substrate is dominated by bedrock, and there is a high percentage of fine sediment within the stream channels. Road density is high (4.8 mi/mi²) and many roads are located along stream valley bottoms.

Photo #1 Project Area



Photo #2 Slide B



Photo #3 Slide B (Closeup)



Hydrology - The proposed culverts are located within the Rock Creek fifth-field watershed. Rock Creek has been identified by the Oregon Department of Environmental Quality (DEQ) as water quality limited for temperature (Oregon DEQ, 1998). The area is characterized by poorly defined surface drainage patterns and perched ground water. A series of springs have been noted along the lower quarter of the hill slope, between the road and the Rock Creek. The springs are pronounced primarily during the rainy periods, when the low vertical permeability rates of the bedrock are overwhelmed by the high infiltration from the surface.

The Rock Creek flows within 250 to 400 feet below the road. The stream flows primarily on bedrock; only the low gradient, short parts of the stream (less than 0.5%) have colluvium deposits of sands and gravels. The naturally “downcut” or “degraded” condition is the result of geological characteristics and steep stream bed gradients. Stream mechanics analysis indicates that the combination of high, channel-forming peak flows and steep gradients (1% or more) creates in-channel velocities in excess of eight fps. In addition, the poor quality of the parent bedrock materials (very soft tuffs and tuff-breccias, which are highly susceptible to chemical and mechanical weathering) does not produce stable, aggradable stream bed material. A hydraulic analysis indicates that “stable” or “armoring” stream bed material (e.g., cobbles) would have to be larger than 12 inches (average); the present average alluvial material is in the range of two to three inches. The two land flow areas in question are located above the outside bends in the stream, morphologically, the most erodible parts of the stream (see photo above). In addition, the land flow mass does not contain sufficient amount and size of self-armoring material that would prevent, or slow down the bank erosion.

Wildlife - Federally threatened and endangered (T&E) species known to occur in the Roseburg District include the northern spotted owl (*Strix occidentalis caurina*), marbled murrelet (*Brachyramphus marmoratus*), bald eagle (*Haliaeetus leucocephalus*), and the Columbian white-tailed deer (*Odocoileus virginianus*). The federal T&E species the Canada lynx (*Lynx canadensis*) is not expected to occur on the Roseburg District. Fender’s blue butterfly (*Icaricia icarioides fenderi*) is a T&E species suspected to occur on the Roseburg District but a site has yet to be documented on District. There are no known northern spotted owl (NSO) sites within 1.2 miles (provincial radius) or within 0.25 miles (disturbance zone) of the project area. The project is not within a 100 ac. owl core area. This project is located within a Critical Habitat Unit (CHU OR-25) for the NSO. Critical Habitat is a specific geographical area specified by the US Fish and Wildlife Service in Recovery Plans as containing habitat essential for the conservation of a Threatened and Endangered species. The habitat within the project area within CHU-OR-25 is currently *not* functioning as nesting, roosting, foraging, or dispersal habitat for the spotted owl due to the stand’s young age (i.e. 12 years) and lack of appropriate structure. This project occurs more than 50 miles from the Coast therefore is not considered to contain suitable marbled murrelet habitat. There are no known bald eagle nests which could be affected by disturbance above ambient noise levels within 0.25 miles of any of the project areas. The remaining T&E species do not occur in the project area.

Survey and Manage (S&M) species known to occur in the Roseburg District include: Oregon red tree vole (*Arborimus lonicaudus*), Del Norte salamander (*Plethodon elongatus*), great grey owl (*Strix nebulosa*), Oregon shoulderband (*Helminthoglypta hertlieni*), Oregon Megomphix (*Megomphix*

hertlieni), and Crater Lake tightcoil (*Pristiloma arcticum*). The only S&M species whose habitat is present within the project area is the red tree vole. There is one Douglas-fir tree (approx. 30-36 in DBH) that would be removed from the project area that triggers red tree vole surveys. No evidence of red tree vole use/occupancy was detected during protocol surveys.

IV. ENVIRONMENTAL CONSEQUENCES

This section provides the evidence and analytical basis for the comparisons of the alternatives. The probable environmental consequences (impacts, effects) to the human environment that each alternative would have on selected resources are described. Impacts can be positive or negative. This section is organized by the alternatives as well as the selected resources. Analysis considers the direct impacts (effects caused by the action and occur at the same place and time), indirect impacts (effects caused by the action and occur later in time or farther removed in distance but are reasonably foreseeable) and cumulative impacts (effects of the action when added to other past, present and reasonably foreseeable future actions) on the resource values. The following paragraphs describe examples of potential direct and indirect impacts that could occur to the affected resource due to implementation of projects:

Botany - Direct effects are those actions that cause direct mortality of Special Status and SEIS Special Attention Plants such as ground disturbance or alteration of microclimatic conditions favorable to the sustained viability of plants. Indirect effects include possible spread of noxious weeds as the result of a management action.

Fisheries - Direct effects are those actions that cause direct mortality or loss of habitat by the action, such as accidental chemical spills and direct disturbance of redds. Generally, direct impacts occur from work within or adjacent to fish bearing streams. Indirect effects are those that are caused by the proposed action and are later in time, but are reasonably certain to occur. These may include increased sediment / turbidity and water temperature, altered stream flows and large woody inputs.

Hydrology - Direct effects are those actions that cause direct changes to the stream channel morphology, hydraulic geometry, or water quality. Indirect effects include changes in road densities routing runoff and transporting sediment, streamside shading, and large woody debris recruitment that effect hydrology and water quality.

Wildlife - Direct effects consists of mortality to species or habitat removal at the time of action. Indirect effects include disturbance to species that might occur as a result of the action alternative, later in time or farther removed in distance, but still reasonably foreseeable.

Appendix F (Analysis File) contains additional supporting information for this analysis. The EIS and FSEIS analyzes the environmental consequences in a broader context. This EA does not attempt to reanalyze impacts that have already been analyzed in these documents but rather to identify the particular site specific impacts that could reasonably occur.

Some irreversible and irretrievable commitment of resources would result from the implementation of this project. An irreversible commitment is a commitment that cannot be reversed whereas an irretrievable commitment is a commitment that is lost for a period of time. An irreversible commitment of petroleum fuels for road construction activity as well as the loss of rock from quarries for use in road construction would result from the proposed action.

When encountering a gap in information, the question implicit in the Council on Environmental Quality regulations on incomplete and unavailable information was posed: Is this information “essential to a reasoned choice among the alternatives?” (40 CFR 1502.22(a)). While additional information would often add precision to estimates or better specify a relationship, the basic data and central relationships are sufficiently well established that any new information would not likely reverse or nullify understood relationships. Although new information would be welcome, no missing information was determined as essential to making a reasoned choice among the alternatives.

A. No Action Alternative

This alternative would not meet the Purpose and Need of the RMP (pg. 15) or this EA (pg. 1) objective of reducing potential sedimentation. The minimizing of potential failure which could add sedimentation to Rock Creek would not be undertaken. An unsafe road condition would be allowed to persist that would endanger use by BLM, Permittees, and public. The continuing practice of periodic addition of bituminous patching adds weight to the slide that perpetuates a safety hazard, and could potentially trigger a slide.

Botanical - Any substantial road failure that would remove the vegetative cover would result in an immediate alteration of the plant community through the deposition of sediment and the loss of vegetative cover. Any failure has a potential to promote the spread of noxious weeds by providing bare soil conditions. Exposed soil is highly preferred by noxious weeds and invasive nonnative species.

Fisheries - No work would be done under the No Action Alternative. Soil displacement and exposing of soil surfaces due to road failure has a potential to provide additional sedimentation to streams. This increase may result in decreased production and survival of fish in the immediate and downstream areas.

Geotech - This alternative would maintain the status-quo; the roadway would require frequent, annual maintenance. The repair would consist of repaving the sunken portion of the road with asphalt; the average thickness of the patch would range between six and 18 inches.

The likelihood of continuing road instability, i.e. mass movement, was assessed at approximately 50% probability for Slide A and 40% for Slide B, indicating that, on average, an annual movement can be expected. It would be impossible to predict the time or the amount of movement, since the instability is directly correlated to the quantity and the temporal distribution of rainfall.

Evaluation of the results of slope stability analysis indicates that there is little or no chance (1% or less)

of catastrophic mass movement at either site, i.e. the entire hillside sliding rapidly into the stream below. Such catastrophic failure would likely occur as a result of major toe erosion and substantial rainfall over long period, or a major earthquake; the chance of this scenario is substantially less than 1% within the next 100 years.

The cost of maintaining this road segment open and safe to traffic was estimated at between \$40,000 and \$60,000, based on a 50-year life cycle. This cost does not include any costs associated with traffic delays, administration or potential legal action. In the case of major slope movement (more than 3 ft to 5 ft drop in road grade), the road would be moved into the hill, similarly to Alternative C, as a emergency and permanent solution to the problem.

Constructing road fills over the two land flows has increased the chances of movement by a small amount. This is for two reasons: adding weight to the head of the slides and elevating the ground water levels, both detrimental to slope stability. Since the toes of either slide are in the Rock Creek, it can be concluded that additional sediment has been delivered into the stream. The total amount of sediment delivered into the stream from the two slide areas was estimated at 50 to 150 c.y. per year, one half of which may be attributable to the road impacts.

The entire area of the instability is characterized by high ground or perched water elevations. In an undisturbed ground condition, the rainfall infiltrates rapidly, and is transported along the contact between the residual, loose soil layer and the underlying bedrock, which has vertical permeabilities one or two orders of magnitude smaller. Most of the subsurface water flow occurs and is concentrated in natural swales, where the depth of the soil is greater. Placement a road fill across these draws causes compression (consolidation) of the loose soil mantle, resulting in substantially lower permeability rates, and causing the subsurface water to rise in elevation. The effects are: increased pore pressures and induced surface water flows, which in turn lead to increased slope instability and surface erosion.

No erosion sites exist along the road segment, and substantial vegetative buffer (250 to 300 feet) exists between the roadway and the stream. No dust pollution is associated with this alternative. The road surface is paved with asphalt, and there are no visible or substantial erosion sites along the road segment.

Wildlife - Wildlife populations and diversity would be expected to remain static. In the event of a road failure and associated slide, the effect on wildlife species and habitat is uncertain since it is dependent on the timing and magnitude of the slide.

B. Proposed Action Alternative

Botanical - Construction work that occurs within the road prism would have no affect on Bureau Special Status Plant Species, or SEIS Special Attention Plant species. These species are not known to occur on roads. Soil disturbance as a result of this action could indirectly promote noxious weed spread.

Fisheries - Removal and replacement of the drainage culverts would occur within the outer-most portion of the Riparian Reserve designated for Rock Creek. With the guidelines specified in the project design features, the probability of adverse affects on fish populations and their habitat to a direct impact is extremely low. This potential impact would be further minimized through the use of Best Management Practices and National Marine Fisheries Service Programmatic Biological Opinion's (August 8, 2001) Terms and Conditions, as well as associated Project Design Criteria. The indirect impact of fine sediment being flushed from the action site by the first winter storm events would occur, however, this amount is considered negligible with no adverse affects to fish populations due to the distance of the proposed actions from the stream channel.

Geotech - An engineering analysis indicates that the stability of either slide could be improved by the removal of the existing road fills, resulting in post-construction probabilities of failure between 10% and 20%; this is the original instability of the land flows prior to the original road construction. The new, realigned road prism would not be affected by the natural land flows below, and would be stable.

The original road construction resulted in additional weight being placed on the head of the slides over the two land flows due to road fills, thus increasing the chances of mass movement; as well as the elevation of the ground water levels within the unstable mass. Both have destabilizing effects on the land flows. The construction of the road fills affects water flow by compressing the soil mantle, thereby reducing the transmissivity of the soil layer. The probability of sliding was increased from approximately 25% before construction, to 60% after the original construction was completed for Slide A, and 10% and 50% respectively for Slide B. The road reconstruction, i.e. removal of the road fills from the land flows, would reduce the chance of mass movement, and the current rate of sedimentation, estimated at 50 to 100 c.y. per year, (approximately one half of which may be attributable to the road impacts) to the original levels of sediment delivery (approximately 50 c.y. per year).

The proposed reconstruction would minimize the effects of the road on the surface and subsurface water transport in the area. The vegetative buffer (250 to 300 feet) that exists between the roadway and the stream, should eliminate any potential sediment delivery from the reconstructed road segment. No dust pollution is associated with this alternative. The road surface would be paved with asphalt, and exposed soil areas would be stabilized with positive erosion control measures such as rock revetments and erosion control blankets. All though-fill areas would be constructed with an underdrain layer that would facilitate water flow (see Geotech Report - Appendix F). The foot-print of the new road on the landscape would be approximately 40% to 50% of the existing road.

Wildlife - Since activity would occur within 0.25 miles of spotted owl nesting, roosting or foraging habitat, operating restrictions would be needed to mitigate disturbance activities (pg. 5). There would be a direct effect to northern spotted owls since approximately 1.24 acres of ground in CHU-OR-25 would be disturbed. Approximately 0.59 acres of currently capable habitat would be permanently removed through the road stabilization activities. However, 0.30 acres (currently non-capable) from the current position of the 26-3-1.0 road segments would have the fill material removed and be planted with conifer species. In addition, 0.35 acres of currently capable habitat would be temporarily

degraded by the removal of additional fill material but would then be re-planted. The fill material would be hauled to the existing Kelly Creek disposal site. There would be a net loss of approximately 0.29 acres of habitat capable of producing primary constituent elements. There would be a direct effect to the red tree vole habitat since there is appropriate habitat that would be removed (i.e. the one suitable red tree vole nest tree) within the project area even though that habitat was unoccupied. There are no further anticipated direct effects to other special status wildlife species within the project area.

There is an indirect effect on the approximately 0.65 acres of CHU-OR-25 that would be re-planted with conifer species. This acreage will develop through the seral stages and is expected to develop into suitable habitat for both spotted owls and red tree voles. There are no anticipated indirect effects to other T&E or S&M wildlife species due to the absence of appropriate habitat for these species.

C. Cumulative Impacts Analysis

The following paragraph discusses the cumulative impacts (i.e. the incremental effects of the action when added to other past, present and foreseeable future actions). These impacts are described for federal lands in the FSEIS beginning on page 3&4-4 and throughout chapter 3&4 based on the resource affected. There has been a continued conversion of late seral and old-growth habitat on private, industrial forest lands to early seral stages. Current management strategies on most of this private land would preclude the development of older seral conditions in the future.

Botanical - An increase in the abundance of noxious weeds could occur. The cumulative impacts would be less than if a major road failure would occur (no action) exposing bare mineral soil to noxious weed infestation.

Fisheries - The proposed project consists of enhancement measures that, by design, have no long-term adverse impacts to the immediate drainage basin. Management activities within the Rock Creek fifth-field watershed consists of both federal and private timber activities, recreational sites, single family residential and agriculture operations. Approximately 85% of the watershed (52,946 acres) is managed for timber operations (Rock Creek WA page 1-3). As these operations are compliant with federal and state laws governing water quality and environmental impacts, no additional adverse impacts are anticipated to the fisheries habitat within the fifth-field watershed. The purpose of the project is to stabilize the road base, thereby reducing the potential of sediment input into the adjacent creek. Therefore, the overall cumulative impacts associated to the proposed project would be beneficial due to a reduction of sedimentation to Rock Creek (Geotech, pg. 12).

Geotech - The cumulative impact of these two sites is immeasurable, considering the published estimates of total generated sediment in local watersheds (cumulative average 1.4 c.y./ac-year for Steamboat Creek 1957 – 96, Stillwater Associates), and the size of the Rock Creek Drainage, (approximately 62,000 acres), for an estimated 90,000 c.y. of sediment per year, versus 50 c.y. of sediment attributable to the road. No quantitative or measurable changes in erosional or hydrologic processes are expected as a result of the project. On a site-specific basis, the reconstructed road would be slightly longer (400 feet), the foot-print of the road would be approximately 50% smaller, and

the sediment delivery into the stream would be reduced by estimated 50 c.y. per year. Considered incrementally, the increased length and the reduced sediment delivery are immeasurable when compared to the existing 400 miles of roads and the total sediment production of 90,000 c.y. in the Rock Creek watershed. Wildlife - There has been a continued conversion of late seral and old-growth habitat on private, industrial forest lands to early seral stages. It is anticipated that the conversion of late seral stands to early seral stands on private lands would continue at their current rate. Current management strategies on most of this private land would preclude the development of older seral conditions in the future. On BLM administered timber lands within the Rock Creek fifth- field watershed, there is 1,066 acres of planned commercial thinning for FY2002. Therefore habitat would increase for early and mid-seral species and decline for late-successional species.

V. CONTACTS, CONSULTATIONS, AND PREPARERS

A. Agencies, Organizations, and Persons Consulted

The Agency is required by law to consult with the following federal and state agencies (40 CFR 1502.25):

1. Threatened and Endangered (T&E) Species Section 7 Consultation - The Endangered Species Act of 1973 (ESA) requires consultation to ensure that any action that an Agency authorizes, funds or carries out is not likely to jeopardize the existence of any listed species or destroy or adversely modify critical habitat.

a. The Roseburg District's Biological Assessment (BA) for T&E wildlife species consultation was submitted to the **US Fish and Wildlife Service**. The BA concluded the proposed action would result in a "no affect" for the spotted owl, murrelet, bald eagle, and would not be likely to adversely modify murrelet critical habitat. The BA concluded that the proposed action would result in a "may affect" for spotted owl critical habitat. A Biological Opinion is expected in June 2002.

b. This project occurs within the area designated as Essential Fish Habitat (EFH) for coho and chinook salmon. The Magnuson-Stevens Act requires consultation of all federal agency actions that may adversely affect EFH. In addition, Oregon Coastal Coho Salmon is listed as Threatened under the Endangered Species Act. **National Marine Fisheries Service** (NMFS) issued a Programmatic Biological Opinion on August 8, 2001, which included provisions along with Terms and Conditions and Project Design Features specific to Road Maintenance activities. The proposed project would be conducted in accordance to those provisions and conditions, concluding that this project is ". . . not likely to jeopardize the continued existence of OC coho salmon". No further consultation with NMFS is needed for ESA listed species or impact to EFH.

2. Cultural Resources Section 106 Compliance - Through previous inventories the BLM has completed its Section 106 responsibilities under the 1997 National Programmatic Agreement and the 1998 Oregon Protocol.

B. Public Notification

1. Notification was provided to affected **Tribal Governments** (Confederated Tribes of the Coos, Lower Umpqua and Siuslaw; Grande Ronde; Siletz; and the Cow Creek Band of Umpqua Indians). No comments were received.
2. Letters were sent to five **adjacent landowners**. No comments were received (see Appendix G - Public Contact).
3. The **general public** was notified via the *Roseburg District Planning Update* (Spring 2002) going to approximately 150 addressees. These addressees consists of members of the public that have expressed an interest in Roseburg District BLM projects. No comments were received.
4. Notification will also be provided to certain **State, County and local government** offices (see Appendix G - Public Contact).
5. A 30-day **public comment period** will be established for review of this EA. A Notice Of Availability will be published in the *News Review*. This EA and its associated documents will be sent to all parties who request them. If the decision is made to implement this project, a notice will be published in the *News Review*.

C. List of Preparers

Isaac Barner	Cultural Resources
Karel Broda	Geotechnical Specialist
A.C. Clough	Fisheries
Pete Howe	Project Lead
Ralph Klein	Management Representative
Randy Lopez	Engineering
Jim Luse	EA Coordinator / EA Preparer
Rex McGraw	Wildlife
Ron Wickline	Botany

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order. These resources or values are either not present or would not be affected by the proposed actions or alternatives, unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

Element	Responsible Position	Not Present	Not Affected	In Text	Initials	Date
Air Quality	Fuels Management Specialist		✓	✓	KC	4/1/02
Areas of Critical Environmental Concern	Environmental Specialist	✓			JSL	3/28/02
Cultural Resources	Archeologist	✓		✓	IB	3/28/02
Environmental Justice	Environmental Specialist		✓		JSL	3/28/02
Farm Lands (prime or unique)	Soil Scientist	✓			DCC	3/28/02
Flood Plains	Hydrologist		✓		DD	4/1/02
Invasive, Nonnative Species	Botanist			✓	RSW	3/28/02
Native American Religious Concerns	Environmental Specialist		✓		JSL	3/28/02
Threatened or Endangered Species (fish)	Fisheries Biologist			✓	ACC	3/28/02
Threatened or Endangered Species (plants)	Botanist	✓		✓	RSW	3/28/02
Threatened or Endangered Species (wildlife)	Wildlife Biologist			✓	RLM	4/1/02
Hazardous/Solid Wastes	District Hazardous Materials Coordinator	✓			LB	3/28/02
Water Quality Drinking/Ground Water	Hydrologist			✓	DD	4/1/02
Wetlands/Riparian Zones	Hydrologist			✓	DD	4/1/02
Wild and Scenic Rivers	Recreation Planner	✓			RLM	4/1/02
Wilderness	Recreation Planner	✓			RLM	4/1/02

References Cited

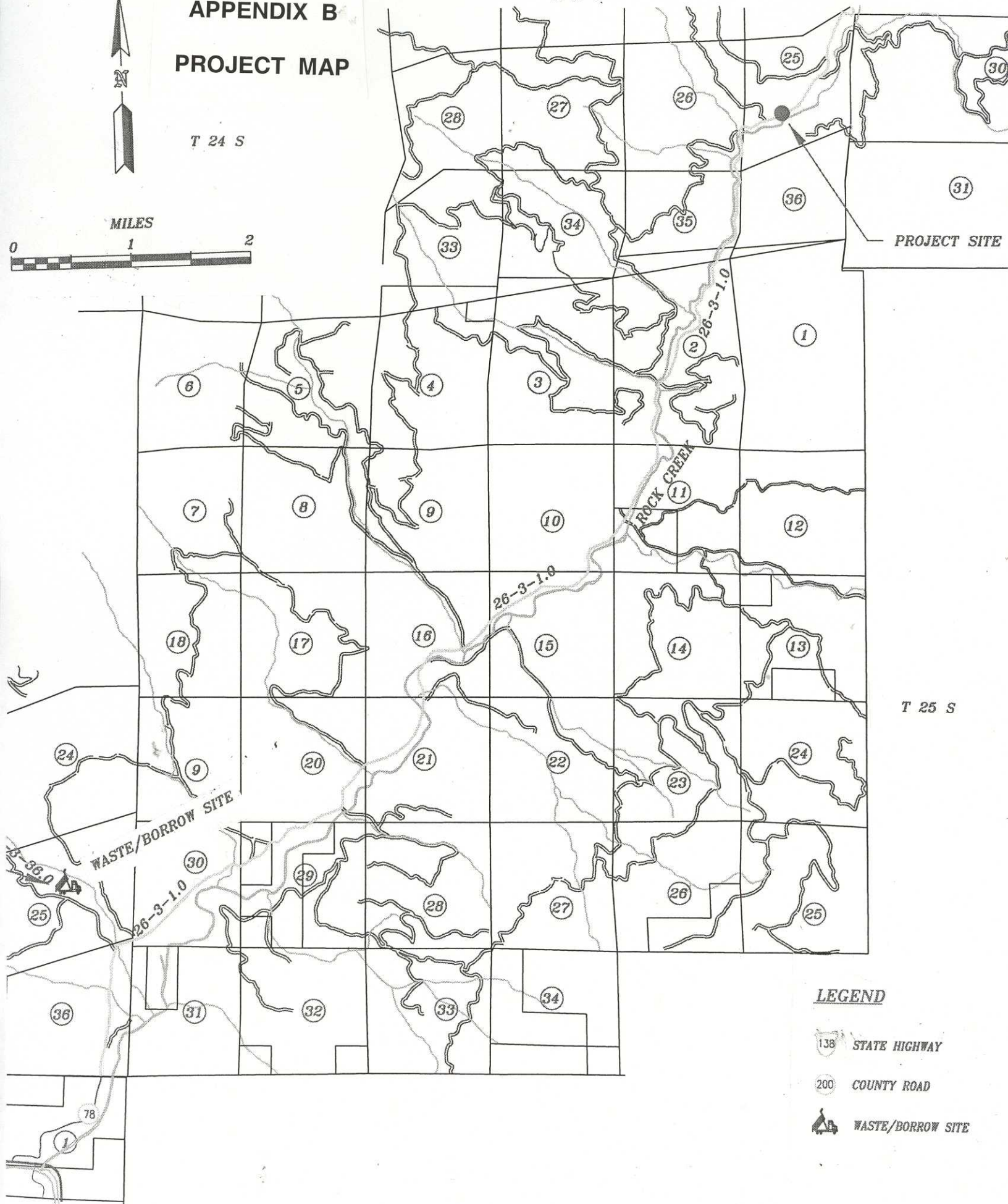
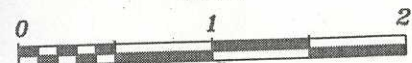
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- U.S. Department of the Interior, Bureau of Land Management. February 1996. Roseburg District: Rock creek watershed analysis.
- U.S. Department of the Interior, Bureau of Land Management. Roseburg District: Roseburg District hazardous materials (HAZMAT) emergency response contingency plan (FY 1998).
- U.S. Department of the Interior, Bureau of Land Management. October 1994. Roseburg District: Final-Roseburg district proposed resources management plan / environmental impact statement (PRMP/EIS).
- U.S. Department of the Interior, Bureau of Land Management. June 2, 1995. Roseburg District: record of decision and resources management plan (RMP).
- U.S. Department of the Interior, Fish and Wildlife Service. 1992b. Endangered and threatened wildlife and plants; determination of critical habitat for the northern spotted owl. Washington, D.C.: *Federal Register* 57:1796-1838.
- Other references as cited in the Analysis File (Appendix F).

APPENDIX B
PROJECT MAP

T 24 S

R 2 W

MILES



PROJECT SITE

T 25 S

LEGEND

138 STATE HIGHWAY

200 COUNTY ROAD

 WASTE/BORROW SITE